

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

ORM Inc.

Massachusetts Manufacturing Extension Partnership

O.R.M. Inc. Improves Productivity with Lean

Client Profile:

O.R.M. Inc. of Northborough, Massachusetts provides electronics manufacturing services to the commercial, industrial, medical and defense markets as well as to the federal government. The woman-owned company, founded by Susan and Peter Ormandroyd, currently employs 19 people. O.R.M. also builds sheet metal enclosures and performs fulfillment work, assembling kits of parts for the medical device industry.

Situation:

O.R.M. had heard about the Massachusetts Manufacturing Extension Partnership (MassMEP), a NIST MEP network affiliate, but because they meet their customers demand they didn't think they needed any assistance. After attending a Lean Champion's Round Table put on by the MassMEP, Peter realized that getting on board with Lean was not only the smart thing to do, but a must. O.R.M. called upon MassMEP for assistance and also applied for a Workforce Training Fund Grant to defray some training costs.

Solution:

MassMEP facilitated a Basic Lean training workshop for several company employees to become familiar with the Lean terms and tools. These Le101 workshops combine classroom sessions with hands-on 'manufacturing' simulations that allow participants to practice what they learn. O.R.M. was particularly interested in having MassMEP help with their plant layout to improve flow throughout the facility. MassMEP worked with O.R.M. using spaghetti diagrams to illustrate all the processes in the system as they currently existed. The diagrams indicated the motion of people, materials and information within each process. This information became the basis for deciding what would be omitted from or included in the new layout. The metal enclosure sub assembly area took up most of a large room. A single employee produced 16 completed enclosures per week using a batch method. MassMEP suggested they try single piece flow for this process and worked with an employee team to design and lay out a cell with the necessary work surfaces, tools and materials within reach. They used visuals and photographs of how the proper assembly looks at different stages. Everything was organized and labeled. The entire assembly area is housed in about 1/10 the space it used to take, freeing up space for additional work cells other operations. With MassMEP's assistance, O.R.M. now has the ability to build 8 enclosures in one day and due to single piece flow they are being shipped continuously to the OEM (Original Equipment Manufacturer) at a steady pace. "This was true validation of the Lean concepts MassMEP and the employees were implementing," said Susan. "We thought we were doing okay because somehow we were managing to meet our client demand. Working with MassMEP, we saw how much better we could be."

In their fulfillment work, O.R.M. deals with lots of pieces--components, circuit boards, wires, nuts and bolts; so visuals have really been key additions to the work cells. Many of their employees are not fluent at reading or speaking English so the diagrams and pictures provide a common language and

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standard procedures for everyone. MassMEP analyzed the way O.R.M. was handling a particular, multi-part kitting job which they ship all over the world. MassMEP worked with the company in creating four cells with visuals to accommodate the procedures involved. The work cells were outlined with tape on the floor as a visual to show when they were 'out-growing' their boundaries, reminding the employees to avoid excesses. Empowering all employees with the freedom and responsibility to offer solutions is critical to Lean success. "The cells have increased throughput of our fulfillment work through the use of visuals, layout changes and consolidation of materials," added Peter. In some areas, O.R.M. posted white boards to show throughput and accountability for the cell leaders to refer to. They track production time and number of units on a daily basis so everyone can see how to manage the Work in Process (WIP) and adjust production. A white board is also used by the Quality Manager to keep track of common mistakes, remind employees of the things they need to be most careful of, and visually indicate how close they are to their goal of zero quality issues. MassMEP's suggestions have led to many examples on the O.R.M. floor of how simple visual displays and storage ideas have been implemented. Plastic dish pans provide convenient sized containers that slide along shelves and are easy to handle. Stacked spools of wire are being replaced by hanging storage racks made from aluminum poles with some hooks and plastic coated cable. Employees created new labels for the spools which indicate pertinent information in large print. Each spool is hung on a hook with the label facing out. This gets them off the racks and makes them easy to locate. The employees also went one step further when creating shadow boards; they incorporated a name tag system so an employee takes a tool and leaves his name tag in its place. This makes it easy to see which tools are missing at the end of the shift and who has them.

Results:

- * Improved productivity by 60 percent.
- * Increased throughput by 50 percent.

Testimonial:

"We can't say enough about MassMEP; their sincere enthusiasm, desire to achieve and respect for all employees was critical to our Lean success. Any time MassMEP needs a referral please give out our number!"

Peter Ormondroyd, President